ACC.12
61st Annual Scientific Session & Expo
ACC-i2 with TCT innovation in intervention

E1608
JACC March 27, 2012
Volume 59, Issue 13

Pulmonary Hypertension

UTILITY OF RIGHT VENTRICULAR STRAIN IMAGING IN PREDICTING PULMONARY VASCULAR RESISTANCE IN PATIENTS WITH PULMONARY HYPERTENSION

ACC Moderated Poster Contributions
McCormick Place South, Hall A
Sunday, March 25, 2012, 11:00 a.m.-Noon

Session Title: Highlighting Right Ventricular Structure, Function, and Physiology in Pulmonary Hypertension
Abstract Category: 30. Pulmonary Hypertension
Presentation Number: 1130-476

Authors: *Nasim Naderi, S. Zahra Ojaghi Haghighi, ahmad amin, Farah Naghashzadeh, Hooman Bakhshandeh, sepideh taghavi, Majid Maleki, Shahid Rajaei Cardiovascular Medical & Research Center, Tehran, Iran (Islamic Republic of), Tehran University of Medical Sciences, Tehran, Iran (Islamic Republic of)*

Background: Pulmonary Vascular Resistance(PVR) have important prognostic implications in the assessment of patients with Pulmonary Hypertension .Currently, this information is obtained only via invasive cardiac catheterization . Using echocardiography to measure PVR would have the advantage of being able to follow patients serially and to assess their response to treatment non-invasively.We sought to assess whether right ventricular(RV) Strain Rate Imaging (SRI) can predict pulmonary vascular resistance(PVR) in patients with pulmonary hypertension(PH)

Methods: Study population consisted of 46 patients referred for right heart catheterization (RHC).The inclusion criteria was mean Pulmonary artery pressure ≥25 mmHg in right heart catheterization in pulmonary hypertension patients of any type, including chronic systolic heart failure .They underwent echocardiography including SRI just before of RHC. Mean values of peak systolic longitudinal strain and strain rate obtained from basal and mid right ventricular free wall were calculated. The control group consisted of 35 healthy adults matched for age and sex

Results: The most significant correlations were between basal RV strain and strain rate(SR) and mean PAP (r=0.63, p=0.000), TPG (r=0.6, p=0.001), and PVR (r=0.5, p=0.003). A stepwise multiple regression analysis was performed to determine the independent relationship between basal RV strain and SR and PVR. SR was independently correlated with PVR (PVR= 26.9-16.9×basal RV SR; r=0.53 p=0.003).

Conclusions: Our present study shows that basal RV free wall strain and SR are independently correlated with PVR in patients with PH.